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EXAMINER

HAMZA, FARUK

ART UNIT PAPER NUMBER

2155

DATE MAILED: 04/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/027,781

Applicant(s)

ABRAMSON ET AL.

Examiner

Faruk Hamza

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is responsive to the application filed on December 20, 2001. Claims 1-21 are now pending.

Specification

2. Content of Specification

Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

Drawings

3. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because provided drawings are not in proper format. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 8 recites the limitation "it". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

7. Claims 1-5,7-10,12,14-17,19-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Goldszmidt et al. (U.S. Patent Number 6,195,680) hereinafter referred as Goldszmidt.

8. Goldszmidt has disclosed:

- <Claim 1>

A system comprising:

a first bi-directional communications module that provides primary service to one or more first service areas in a distribution network and backup service to one or more second service areas; and (Column 7, lines 23-41)

a second bi-directional communications module that provides primary service to one or more of the second service areas and backup service to one or more of the first service areas, (Column 7, lines 23-41)

wherein the first and second bi-directional communications modules comprise a redundancy group. (Column 7, lines 23-41)

- <Claim 2>

The system of claim 1 wherein each module comprises a primary and a secondary downstream output and wherein the primary downstream output is combined with a secondary downstream output of at least one other bi-directional communications module in the event of a failure of the at least one other bi-directional communications module. (Fig. 1; Column 4, lines 34-40).

- <Claim 3>

The system of claim 1 wherein each module comprises a plurality of upstream ports and a plurality of upstream receivers mapped to one or more of the upstream ports, wherein a remapping of one or more upstream receiver takes place in the event of a failure of the at least one other bi-directional communications module. (Fig. 1; Column 4, lines 34-40).

- <Claim 4>

A system comprising:

a first cable modem termination system module that provides primary service to one or more first service areas and backup service to one or more second service areas; and (Column 7, lines 23-41)

a second cable modem termination system module that provides primary service to one or more of the second service areas and backup service to one or more of the first service areas, (Column 7, lines 23-41)

wherein the first and second cable modem termination system modules comprise a redundancy group. (Column 7, lines 23-41)

- <Claim 5>

The system of claim 4 wherein each module comprises a primary and a secondary downstream output and wherein the primary downstream output is combined with a secondary downstream output of at least one other cable modem termination system module in the event of a failure of the at least one other cable modem termination system module. (Column 4, lines 34-40)

- <Claim 7>

The system of claim 4 wherein each module comprises a plurality of upstream ports and a plurality of upstream receivers that may be configured to receive data on one or more upstream channels. (Column 4, lines 34-40)

- <Claim 8>

A system comprising one or more pairs of cable modem termination system modules wherein both modules of a pair in a normal mode of operation provide primary service to at least one service area and also provide backup service in a backup mode of operation for at least one additional service area in the event of a failure of the module to which it is paired and in addition to continuing to provide primary service to the at least one service area. (Column 7, lines 23-41)

- <Claim 9>

A system comprising:

a first bi-directional communications module that provides primary upstream and downstream service to one or more first service areas, and secondary upstream and downstream service to one or more second service areas, the first bi-directional communications module comprising

a plurality of upstream ports linked to a plurality of the first and second secondary service areas, and (Column 4, lines 34-40)

a plurality of upstream receivers mapped to one or more of the upstream ports; (Column 4, lines 34-40)

a first downstream port to provide downstream service to the one or more of the first service areas; (Column 4, lines 34-40)

a second downstream port to provide backup downstream service to the one or more of the second service areas; (Column 4, lines 34-40)

a status indicator to provide an indication of an operating status of the first bi-directional communications module to a secondary bi-directional communications module; and (Fig. 1a, 1.1)

a second bi-directional communications module that provides primary upstream and downstream service to one or more of the second service areas, and secondary upstream and downstream service to one or more of the first service areas, second bi-directional communications module comprising

a plurality of upstream ports linked to a plurality of first and second service areas, and (Column 4, lines 34-40)

a plurality of upstream receivers mapped to one or more of the upstream ports; (Column 4, lines 34-40)

a first downstream port to provide downstream service to the one or more second service areas; (Column 4, lines 34-40)

a second downstream port to provide backup downstream service to the one or more first service areas; and (Column 4, lines 34-40)

a status indicator to provide an indication of an operating status of the second bi-directional communications module to the first bi-directional communications module. (Fig. 1a, 1.1)

- <Claim 10>

The system of claim 9 wherein a remapping of one or more upstream receivers of the first bi-directional communications modules to effect upstream service to the one or more second service areas takes place in response to an indication that the second bi-directional communications module has failed; and a remapping of one or more upstream receivers of the second bi-directional communications modules to effect upstream service to the one or more first service areas takes place in response to an indication that the first bi-directional communications module has failed. (Column 7, lines 53-67; Column 8, lines 1-6)

- <Claim 12>

A bi-directional multi-point to point communication system, comprising:
a distribution network; (Fig. 1a)
a plurality of end user cable modems that transmit and receive data over the distribution network; (Column 5, lines 22-31)
at least one head end terminal comprising

a plurality of modules to transmit downstream data in a first frequency bandwidth over the distribution network and to receive upstream data in a second frequency bandwidth over the distribution network, (Column 4, lines 27-40)

wherein a first module of the plurality of modules provides primary service to one or more first service areas in the distribution network in a normal mode of operation and provides backup service to one or more second service areas in the distribution network in a backup mode of operation while continuing to provide primary service to the one or more first service areas; and (Column 7, lines 23-41)

wherein a second module provides primary service to one or more of the second service areas in the distribution network in a normal mode of operation and backup service to one or more of the first service areas in the distribution network in a backup mode of operation while continuing to provide primary service to the one or more second service areas. (Column 7, lines 53-67; Column 8, lines 1-6)

- <Claim 13>

The system of claim 12, further comprising a controller to supervise timing of a change to a backup mode of operation. (Column 9, lines 6-15)

- <Claim 14>

The system of claim 13, wherein the controller is configured to enable modems to reconfigure upstream channels before a change is made to port maps in response to the change to a backup mode of operation. (Column 9, lines 7-22)

- <Claim 15>

The system of claim 12, wherein a change to a backup mode of operation of a module is initiated in response to an indication of failure from the module that provides primary service. (Column 9, lines 7-22)

- <Claim 16>

A method of providing back up service in a bi-directional multi-point to point distribution network for a first module that transmits downstream data in a first frequency bandwidth over the distribution network and receives upstream data in a second frequency bandwidth over the distribution network, comprising:

pairing the first module with a second module to form a redundancy group wherein the first module provides primary service to one or more first service areas in the distribution network in normal operation and backup service to one or more second service areas in the distribution network in a backup mode of operation and the second module provides primary service to one or more of the second service areas in the distribution network in normal operation and backup

service to one or more of the first service areas in the distribution network in a backup mode of operation. (Column 4, lines 26-40; Column 3, lines 50-56)

- <Claim 17>

The method of claim 16, wherein the first and second modules each communicate a status signal to the other module of the pair indicating an operating status of the module. (Fig. 1a, 1.1; Column 4, lines 55-58)

- <Claim 19>

The method of claim 17 wherein a backup mode of operation of one module of the pair will begin in response to a change in the status signal of the other module of the pair. (Column 10, lines 18-31)

- <Claim 20>

The method of claim 19 wherein timing of the backup operation is configurable by an operator. (Column 9, lines 6-15)

- <Claim 21>

The method of claim 19 wherein timing of the backup operation is configurable to enable modems to reconfigure upstream channels before a change is made to port maps in response to the change to a backup mode of operation. (Column 9, lines 6-15)

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 6 and 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Goldszmidt et al. (U.S. Patent Number 6,195,680) as applied above, and further in view of Oz et al. (U.S. Patent Number 6,434,414) hereinafter referred as Oz.

11. With respect to claim 6,

Goldszmidt teaches primary and secondary downstream output. (Fig. 1a). Goldszmidt explicitly doesn't teach combining output by using RF combiner.

However, Oz in an analogous art teaches combining output. (Oz, column 11, lines 35-43)

- <Claim 6>

The system of claim 5 wherein the primary downstream output is combined with a secondary downstream output of at least one other cable

modem termination system module by an RF combiner. (Oz, column 11, lines 35-43)

Since the inventions disclosed in Goldszmidt and Oz encompass the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Goldszmidt by RF combiner that would make the system well suited to the broadband communication system. The incorporation of the RF combiner in Goldszmidt would make the system versatile. (Oz, Column 9, lines 51-55).

12. With respect to claim 11,

Goldszmidt teaches a bi-directional communication system. (Goldszmidt, Fig. 1a). Goldszmidt explicitly doesn't teach DOCSIS compliant hybrid fiber cable system.

However, Oz in an analogous art teaches DOCSIS compliant hybrid fiber cable system. (Oz, Fig. 1, 128,130)

- <Claim 11>

The system of claim 10 wherein the system is a DOCSIS compliant hybrid fiber cable system. (Oz, Fig. 1, 128,130).

Since the inventions disclosed in Goldszmidt and Oz encompass the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Goldszmidt by adding DOCSIS compliant hybrid fiber cable system that would make the system well suited to the broadband communication system. The incorporation of the DOCSIS compliant hybrid fiber cable system in Goldszmidt would make the system versatile. (Oz, Column 9, lines 51-55).

13. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goldszmidt et al. (U.S. Patent Number 6,195,680) hereinafter referred as Goldszmidt.

14. With respect to claim 18,

Goldszmidt teaches, two bi-directional systems communicates each other through the control server. Goldszmidt explicitly doesn't teach using heartbeat in signal.

As to claim 18, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Goldszmidt by adding heartbeat in signal that would make the system well suited to the broadband communication system. The incorporation of the heartbeat in signal in

Goldszmidt would make the switching of stream server smoother. (Goldszmidt, Column 10, lines 18-21).

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Otani et al. (U.S. Patent Number 6,449,250) discloses method for switching central device and a cable modem system using the same.
- Fijolek et al. (U.S. Patent Number 6,553,568) discloses methods and system for service level agreement enforcement on a data-over cable system
- Kanekar et al. (U.S. Patent Number 6,751,191) discloses load sharing and redundancy scheme.
- Unger et al. (U.S. Patent Number 6,230,326) disclosed a system and method for initialization of a cable modem.
- Baskey et al. (U.S. Patent Number 6,148,410) discloses a fault tolerant recoverable TCP/IP connection router.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Faruk Hamza whose telephone number is 571-272-7969. The examiner can normally be reached on Monday through Friday.

Art Unit: 2155

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached at 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll -free).

Faruk Hamza

Patent Examiner

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SUPERVISORY PATENT EXAMINER